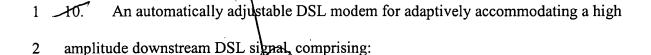
## What is claimed is:

- A method for adaptively adjusting a DSL modern receiver in response to a high
- 2 amplitude downstream DSL signal, comprising:
- determining whether the magnitude of the downstream DSL signal is above a
- 4 predetermined threshold;
- decreasing an amount of gain of the DSL modem receiver if the amplitude of the
- 6 downstream DSL signal is above the predetermined threshold to prevent the receiver
- 7 from being saturated by the downstream DSL signal.
- 1 2. The method for adaptively adjusting a DSL modern receiver according to claim 1,
- 2 wherein the step of decreasing further comprises switching in additional resistance in a
- 3 receiver amplifier to decrease the gain of the receiver.
- 1 3. The method for adaptively adjusting a DSL modem receiver according to claim 1,
- wherein the step of determining is performed by a digital signal processor.
- 1 4. The method for adaptively adjusting a DSL modem receiver according to claim 1,
- 2 further comprising the step of initially setting the gain of the first stage receiver at a
- 3 default gain.
- 1 5. The method for adaptively adjusting a DSL modem receiver according to claim 1
- 2 wherein the step of decreasing further comprises decreasing the receiver gain by 3 dB to
- 3 12 dB.

- A method of adaptively adjusting a DSL modem having a receiver that includes
- 2 an amplifier circuit in response to a high amplitude downstream DSL signal, comprising:
- determining whether the amplitude of the downstream DSL signal is above a
- 4 predetermined threshold; and
- attenuating the downstream DSL signal before the downstream DSL signal enters
- 6 the amplifier circuit if the downstream DSL signal amplitude is above the predetermined
- 7 threshold.
- The method of adaptively adjusting a DSL modem according to claim 6, wherein
- 2 the step of determining is performed by a digital signal processor and the step of
- 3 attenuating is performed by a loss circuit.
- 1 8. The method of adaptively adjusting a DSL modem according to claim 6, wherein
- 2 the step of attenuating further comprises inserting a loss of between 3 dB to 12 dB to the
- 3 downstream DSL signal amplitude.
- 1 9. The method of adaptively adjusting a DSL modern according to claim 6, wherein
- 2 the step of attenuating further comprises switching in a resistor to attenuate the
- 3 downstream DSL signal.



- a data processor for defeating the amplitude of the downstream DSL signal; and
- a first stage receiver coupled to and controlled by the data processor;
- the first stage receiver having an adjustable gain so that the data processor may
  decrease the gain of the first stage receiver in response to detecting a high amplitude
- 7 downstream DSL signal.
- 1 11. The automatically adjustable DSL modem according to claim 10, wherein the first
- 2 stage receiver further comprises a pair of amplifier circuits, each amplifier circuit
- 3 including a switching device coupled to and controlled by the data processor for
- 4 selectively switching in additional resistance to decrease the gain of the amplifier circuit
- 5 in response to detection of a high amplitude downstream DSL signal.
- 1 12. The automatically adjustable DSL modem according to claim 10, further
- 2 comprising an analog front end including hybrid and a receive filter, the first stage
- 3 receiver being disposed between the hybrid and the receive filter.



- a data processor for detecting the amplitude of the downstream DSL signal; and
  a loss circuit coupled to and controlled by the data processor for attenuating the
  downstream signal in response to the data processor detecting a high amplitude
  downstream DSL signal.
- 1 14. The automatically adjustable DSL modem according to claim 13, further
  2 comprising a first stage receiver having at least one amplifier circuit for amplifying the
  3 downstream DSL signal, the loss circuit being disposed within the first stage receiver to
  4 selectively attenuate the downstream DSL signal before the amplifier circuit amplifies the
  5 downstream DSL signal.
- The automatically adjustable DSL modem according to claim 13, wherein the loss circuit further comprises a switching device coupled to a resistor, the switching device being coupled to and controlled by the data processor to switch in the resistor to selectively attenuate the downstream DSL signal.

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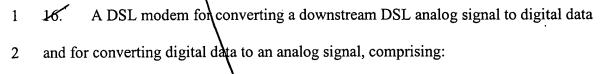
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a data processor for detecting the amplitude of the downstream analog signal, the data processor being configured to determine whether the amplitude of the downstream analog signal is greater than a predetermined threshold;

an analog front end coupled to and controlled by the data processor for receiving the downstream analog signals;

the data processor being configured to adjust the analog front end according to whether the amplitude of the downstream signal is greater than a predetermined threshold to prevent the analog front end from being saturated by high amplitude downstream signals.

- 17. The DSL modem according to claim 16 wherein the analog front end further comprises a first stage receiver, the first stage receiver having an adjustable gain so that the data processor may decrease the gain of the first stage receiver in response to detecting a high amplitude downstream signal.
- 1 18. The DSL modem according to claim 16 further comprising a loss circuit coupled
  2 to and controlled by the data processor for attenuating the downstream signal in response
  3 to the data processor detecting a downstream signal greater than the predetermined
  4 threshold.

signal.

1	A system for adaptively adjusting a DSL modem receiver in response to a high
2	amplitude downstream DSI signal, comprising:
3	means for determining whether the amplitude of the downstream DSL signal is
4	above a predetermined threshold
5	means for decreasing an amount of gain of the DSL modem receiver if the
6	amplitude of the downstream DSL signal is above the predetermined threshold to prevent
7	a receiver amplifier from being saturated by the downstream DSL signal.
1	20. A system for adaptively adjusting a DSL modem having a receiver that includes
2	an amplifier circuit in response to a high amplitude downstream DSL signal, comprising:
3	means for determining whether the amplitude of the downstream DSL signal is
4	above a predetermined threshold; and
5	means for attenuating the downstream DSL signal before the downstream DSL
6	signal enters the amplifier circuit if the downstream DSL signal amplitude is above the
7	predetermined threshold.
1	A method for adaptively adjusting a DSL modem receiver in response to a high
2	amplitude downstream DSL signal, comprising:
3	measuring the amplitude of the downstream DSL signal;
4	adjusting an amount of gain of the DSL modem receiver according to the
5	measured amplitude to prevent the receiver from being saturated by the downstream DSI



- 1 22. A method for adaptively adjusting a DSL modem receiver in response to a high
- 2 amplitude downstream DSL signal, comprising:
- measuring the amplitude of the downstream DSL signal;
- 4 selectively attenuating the downstream DSL signal before the downstream DSL
- signal enters the amplifier circuit according to the measured amplitude of the downstream
- 6 DSL signal to prevent the downstream DSL signal from saturating the receiver.